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SEP 01 2004
TRADE MARK OFFICE

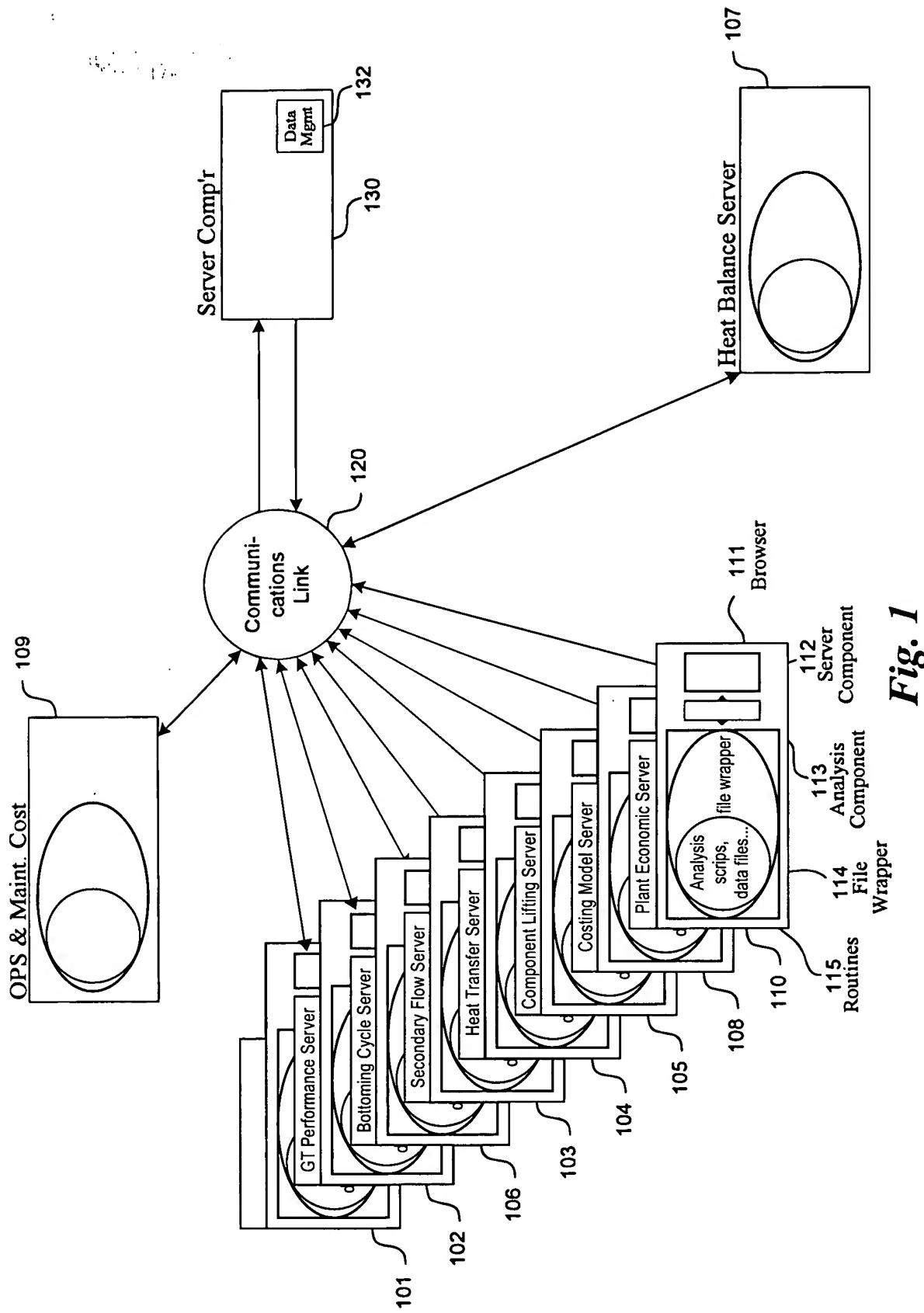


Fig. 1

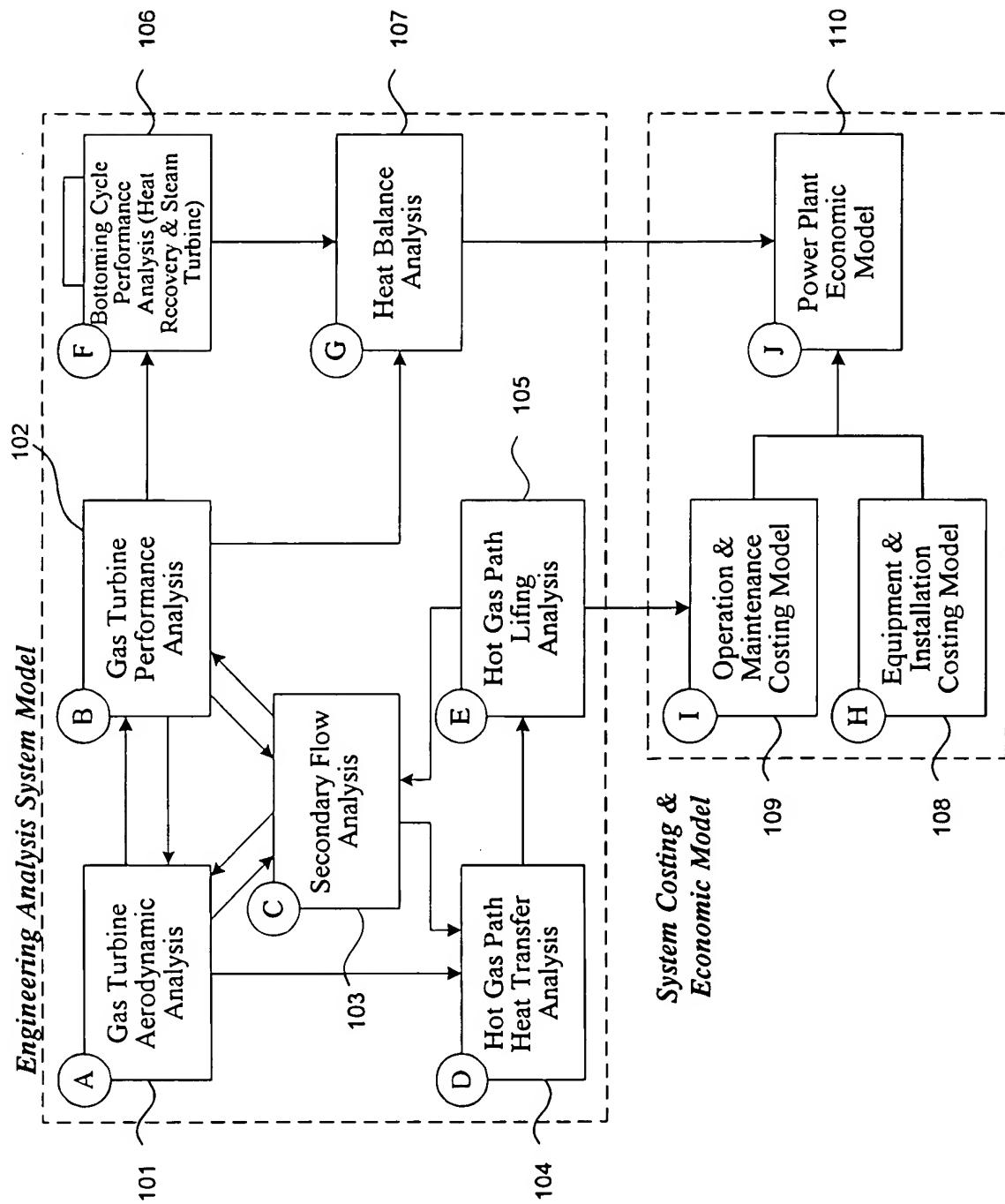


Fig. 2

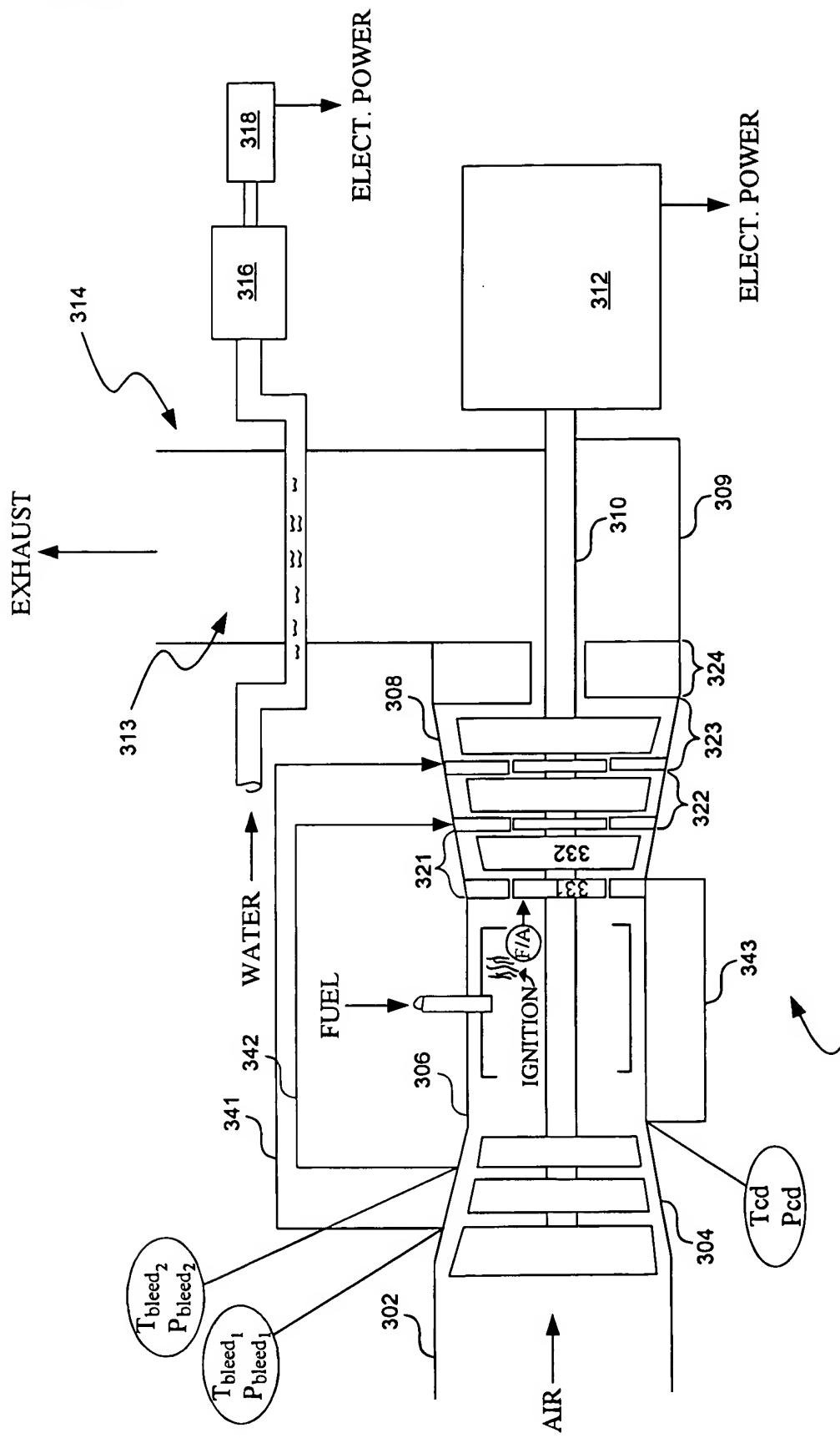
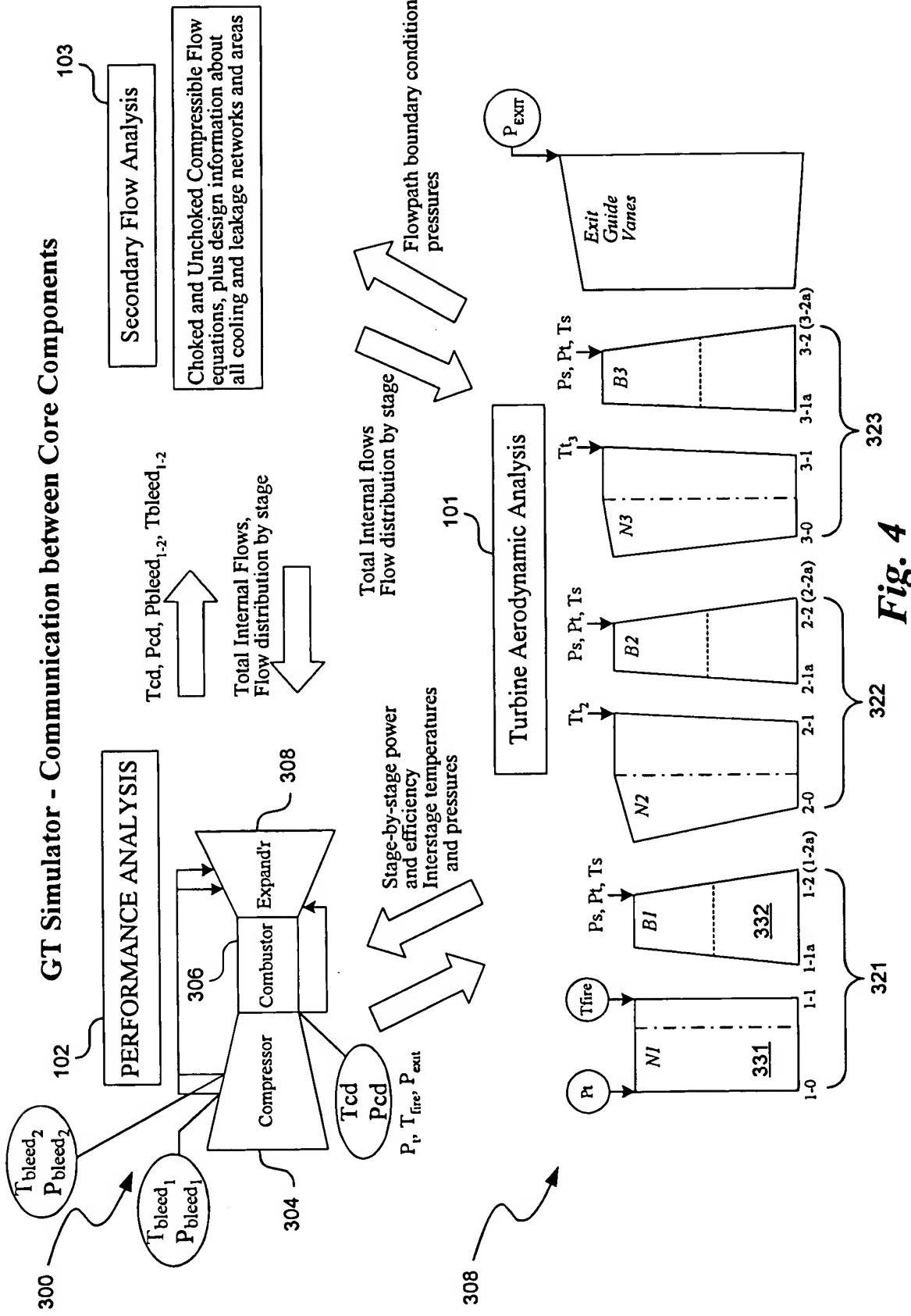


Fig. 3



GT Simulator - Communication between Core Components



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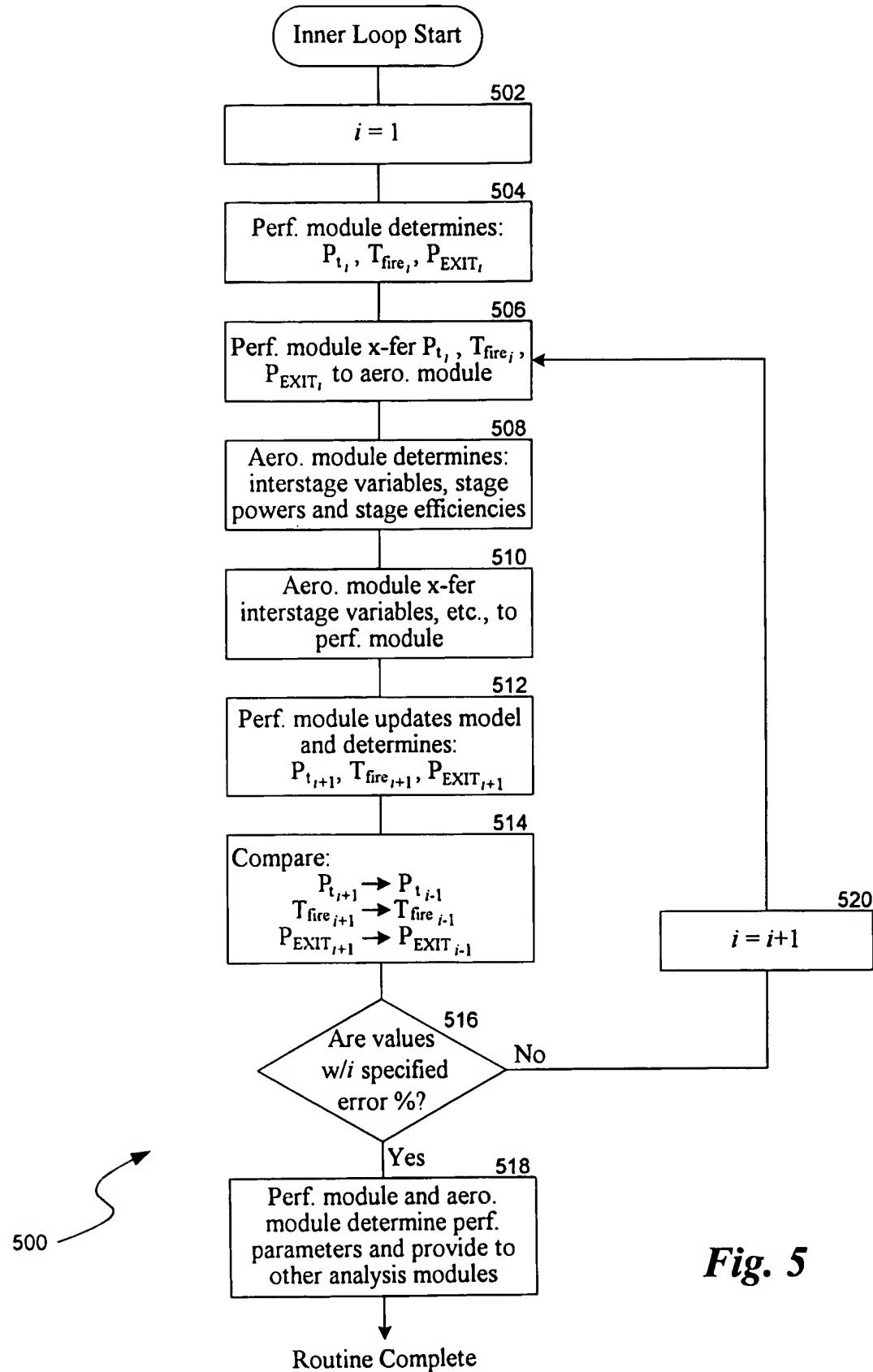


Fig. 5

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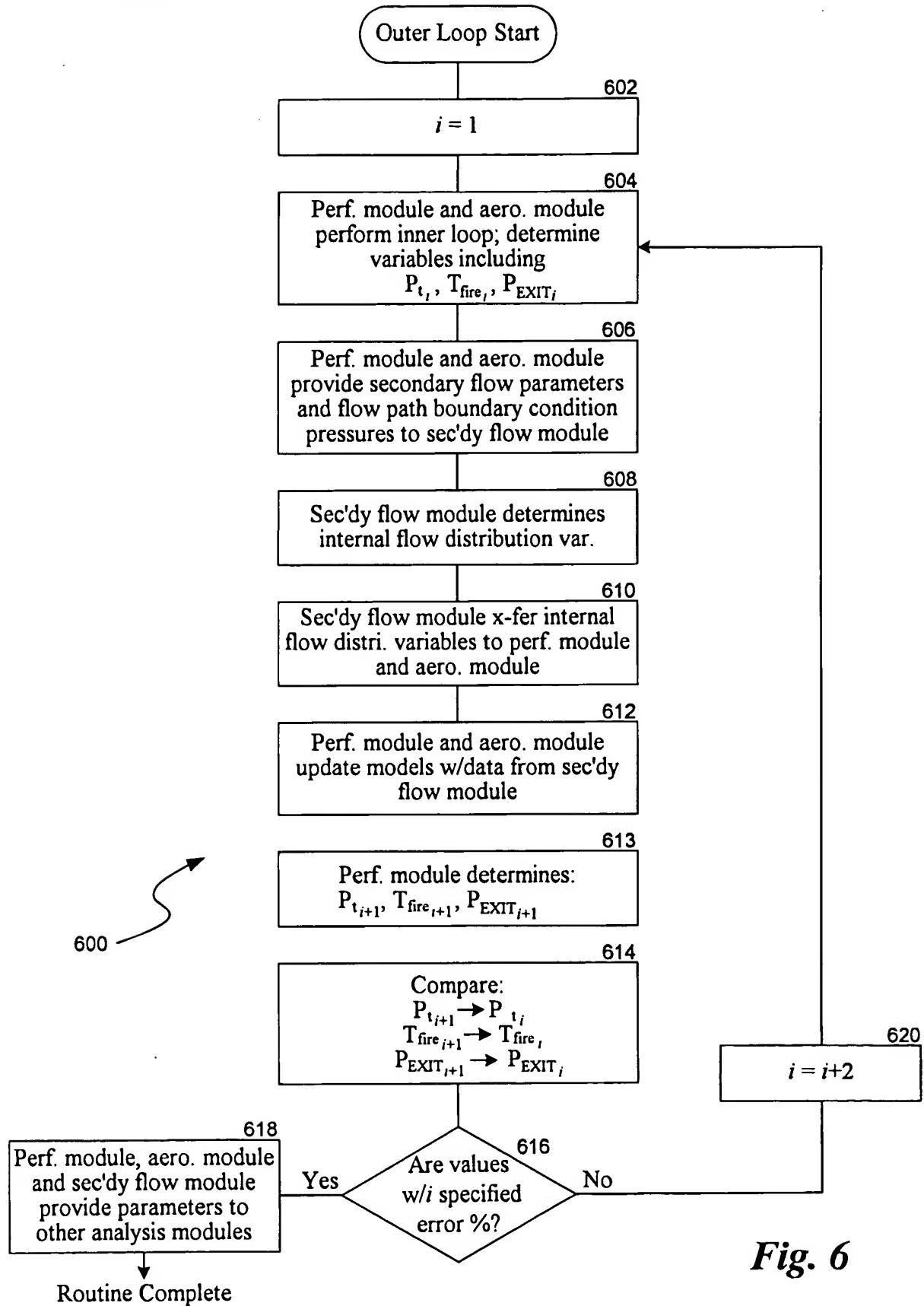


Fig. 6



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Fig. 7 706

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GT Simulation Control Panel
<input type="checkbox"/> Show Iteration History
<input type="checkbox"/> Show Convergence Summary
<input type="checkbox"/> Show Output Summary

Analysis Options

- Single Inner Loop (Code: Deck -> TRP)
- Reuse Inner Loop (Code: Deck -> TRP)
- Single Outer Loop (Flow -> x/y/Deck -> TRP)
- Reuse Outer Loop (Flow -> x/y/Deck -> TRP)

Record Results in History Fresh Analysis w/ MBs, H2s

Executive Analysis

Section

Section	Content	Format
Spreadsheets: Hide Options	<input checked="" type="checkbox"/> Hide All Spreadsheets <input type="checkbox"/> Hide Only Spreadsheets <input type="checkbox"/> Hide Top Spreadsheets <input type="checkbox"/> Hide Bottom Spreadsheets <input type="checkbox"/> Hide Gantt Spreadsheets (Under Construction) <input type="checkbox"/> Hide Long Spreadsheets (Under Construction) <input type="checkbox"/> Hide Convergence Spreadsheets <input type="checkbox"/> Hide All Spreadsheets	Unhide All
Icon	<input type="checkbox"/> Hide All Icons	Hide All
Table	<input type="checkbox"/> Hide All Tables	Unhide All

IFT Execution Options Available IFT Models:	
<input type="checkbox"/> Use APP1 Model <input type="checkbox"/> Use STS1 Model <input type="checkbox"/> Use S2W1 Model <input type="checkbox"/> Use SWN1 Model <input type="checkbox"/> Use ROTOR1 Model	
<input type="checkbox"/> Execute IFT In Loop	

Convergence Control Options	
Inner Loop Convergence Criteria	
Max Allow Err (def=1.5)	0.5 %
Max Allow Sum of Err (def=999)	999.0 %
Max Iterations (def=2)	1

Aer.
Perf.

Clear History [Inactive]		Record Iteration	
Iteration History		Iteration Status	
Loop 2 (Outer Loop): Secondary Flow->Cycle Deck->Iterator1		Iterate2/Compile	
Time Started (Loop2)	6/19/03 11:05:50		
+Time Completed (Cooling Analysis)	6/19/03 11:05:50		
-Time Started (Cooling Analysis)	6/19/03 11:05:02		
+Time Completed (Cycle Deck)	6/19/03 11:06:19		
-Time Completed (Cycle Deck)	6/19/03 11:06:48		
+Time Started (Iterator 1)	6/19/03 11:07:05		
-Time Completed (Iterator 1)	6/19/03 11:13:06		
Time Completed (Loop2)	6/19/03 11:13:07		
9FA+e SF Sys YFT			
Run Time [Cooling Analysis] [sec]	12		
Run Time [Cycle Deck] [sec]	29		
Run Time [Iterator 1] [sec]	36		
Run Time [Other Calculation] [sec]	35		
Run Time [Loop2 Total] [sec]	437		
Iteration # [Loop 2]	1		
Loop 1 (Inner Loop): TP3->Cycle Deck			
Time Started (Loop1)	6/19/03 11:07:06		
+Time Started (TP3)	6/19/03 11:07:06		
-Time Completed (TP3)	6/19/03 11:12:01		
+Time Started (Cycle Deck)	6/19/03 11:12:18		
-Time Completed (Cycle Deck)	6/19/03 11:12:47		
Time Completed (Loop1)	6/19/03 11:13:06		
Run Time [Other Calculation] [sec]	360		
Run Time [Loop1 Total] [sec]	360		
Iteration # [Loop 1]	1		
Iteration # [Loop 2]	1		
Variable Name			
Convergence (Percent Difference)			
SysLoop1.TP3eCO_Dict_PRAUTO.TI_1	0.00		
SysLoop1.TP3eCO_Dict_PRAUTO.TI_2	0.00		
SysLoop1.TP3eCO_Dict_PRAUTO.TI_3	0.00		
SysLoop1.TP3eCO_Dict_PRAUTO.TI_4	0.00		
SysLoop1.TP3eCO_Dict_PRAUTO.TI_5	0.00		
SysLoop1.TP3eCO_Dict_PRAUTO.TT_1	-0.01		
SysLoop1.TP3eCO_Dict_PRAUTO.TT_2	0.01		
SysLoop1.TP3eCO_Dict_PRAUTO.TT_3	0.02		
SysLoop1.TP3eCO_Dict_VN20041	-0.03		
SysLoop1.TP3eCO_Dict_VN30041	-0.02		
SysLoop1.TP3eCO_Dict_VN30042	-0.12		
SysLoop1.TP3eCO_Dict_HP_11	-0.11		
SysLoop1.TP3eCO_Dict_HP_12	-0.09		
SysLoop1.TP3eCO_Dict_HP_13	-0.10		
SysLoop1.TP3eCO_Dict_HP_14			



Convergence History:																	
	Flow path	variable	YFT Variable	(name)	model	type	ID	1	2	3	4	5	6	7	8	9	10
1	1SXOVL	P	S2N	1	100.00	99.00											
		T	S1S	3	102.00	100.00											
		Flow	S2N	1	700.00	690.00											
			S1S	3	650.00	645.00											
2	2STOTL	P	S2N	117	0.2000	0.1990											
		T	S3N	1	100.00	99.00											
		Flow	S2N	1	90.00	91.00											
			S3N	2STOTL	0.5000	0.4500											
3	1BSHKT	P	HPPS	14	300.00	296.00											
		T	S2N	20	60.00	59.00											
		Flow	HPPS	1BSHKT	0.1500	0.1400											
			S2N	62	0.2000	0.1990											
4	1RAFTL	P	ROTORF	15	100.00	98.00											
		T	S2N	22	80.00	79.00											
		Flow	ROTORF	22	710.00	702.00											
			S2N	15	600.00	601.00											
5	1BDTAL	P	RO ORF	64	0.2100	0.2000											
		T	S2N	15	101.00	100.00											
		Flow	RO ORF	22	90.00	89.00											
			S2N	15	800.00	798.00											
6	2RFWDL	P	ROT ORF	22	805.00	804.00											
		T	S2N	77	0.3000	0.2200											
		Flow	ROT ORF	21	50.00	48.00											
			S2N	31	50.00	51.00											
		Flow	RFWDL	31	800.00	830.00											
			S2N	65	0.2000	0.1800											

Fig. 8

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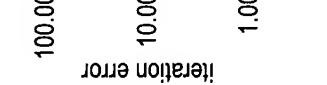
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Tolerance for convergence: 0.1

Max number of iterations: 8

Number of matching B.C.'s: 11



Convergence History



908

TP3 Settings		UNIT	7FA	7F	7FA	7FA*	7FA+e
TP3 Areas (linked or unlinked)		S1N			S1N		
unlinked		S1S			S1S		
906		S2N			S2N		
		S2S			S2S		
		S2B			S2B		
		S3N			S3N		
		S3S			S3S		
		S3B			S3B		
RPM	Frame Scale Factor	Sysn RPM	3600	5254	3600	3600	3600
	SF	1	1	1	1	1	1
902							
Orange values need updating before use!							
S1N		roughness	CLAKV_STG1	30	10	30	40
		inlet metal angle	SDIA_STG1	7	4	6	50
		throat area	SPA_STG1	20	16	18	12
		TE thickness	TEV_STG1	20	0	10	24
Orange values need updating before use!							
S1S		tip clearance	CL_STG1	0.4	0.3	0.4	0.2
904							
S1B		surface roughness	CLAKB_STG1	200	200	200	200
		inlet metal angle	RDIA_STG1	14	10	12	16
		throat area	RPA_STG1	100	100	100	100
		TE thickness	TEB_STG1	0.2	0.2	0.2	0.2
Orange values need updating before use!							
S1D		Data Match Adjusters	SCF_STG1	0.6	0.4	0.5	0.6
		flow coefficient (S1N)	RCF_STG1	1	1	1	1
		flow coefficient (S1B)	DETAV_STG1	0	0	0	0
		efficiency (S1N)	DETAB_STG1	0	0	0	0.2
		efficiency (S1B)	TEV_STG1	0	0	0	0.2
904							
S2N		roughness	CLAKV_STG2	30	10	20	30
		inlet metal angle	SDIA_STG2	7	4	6	50
		throat area	SPA_STG2	30	26	28	12
		TE thickness	TEV_STG2	20	0	10	34
Orange values need updating before use!							
S2S		tip clearance	CL_STG2	0.4	0.3	0.4	0.2
904							
S2B		surface roughness	CLAKB_STG2	100	100	100	100
		inlet metal angle	RDIA_STG2	14	10	12	16
		throat area	RPA_STG2	180	180	180	180
		TE thickness	TEB_STG1	0.2	0.2	0.2	0.2
904							
900							

Fig. 9